

WHAT IS CLAIMED IS:

1. A chimeric polypeptide comprising
a first polypeptide domain comprising at least one moiety that specifically
binds to a chemokine receptor; and,
5 a second polypeptide domain comprising at least one moiety that specifically
binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

2. The chimeric polypeptide of claim 1, wherein the chemokine receptor
is a chemokine receptor 5 (CCR5).

10 3. The chimeric polypeptide of claim 2, wherein the chemokine receptor
5 (CCR5) is a human chemokine receptor 5 (CCR5).

4. The chimeric polypeptide of claim 2, wherein the moiety that
15 specifically binds to the chemokine receptor comprises a RANTES or a fragment thereof
capable of binding to the CCR5 receptor.

5. The chimeric polypeptide of claim 2, wherein the moiety that
specifically binds to the CCR5 chemokine receptor comprises a MIP-1 α or a fragment
20 thereof capable of binding to the CCR5 receptor.

6. The chimeric polypeptide of claim 2, wherein the moiety that
specifically binds to the CCR5 chemokine receptor comprises MIP-1 β , MCP-2, or MCP-3 or
a fragment thereof capable of binding to the CCR5 receptor.

25 7. The chimeric polypeptide of claim 1, wherein the moiety that
specifically binds to the chemokine receptor comprises an IP-10 (CXCL10), a MIG
(CXCL9), an I-TAC (CXCL11) or a fragment thereof capable of binding to the CXCR3
chemokine receptor.

30 8. The chimeric polypeptide of claim 1, wherein the chemokine receptor
is a CXCR3.

9. The chimeric polypeptide of claim 1, wherein the chemokine receptor is a CCR4.

10. The chimeric polypeptide of claim 1, wherein the chemokine receptor is a CCR6.

11. The chimeric polypeptide of claim 1, wherein the chemokine receptor is a CCR10.

12. The chimeric polypeptide of claim 1, wherein the chemokine receptor is a CXCR4, CCR1, CCR2, CCR3, CCR7, CCR8, CCR9, XCR1, or a CX3CR1.

13. The chimeric polypeptide of claim 1, wherein the T cell surface polypeptide comprises a CD3 polypeptide.

14. The chimeric polypeptide of claim 1, wherein the cell toxin comprises a *Pseudomonas* exotoxin.

15. The chimeric polypeptide of claim 14, wherein the *Pseudomonas* exotoxin comprises a PE38 exotoxin, a PE40 exotoxin or a PE37 exotoxin.

16. The chimeric polypeptide of claim 1, wherein the cell toxin comprises a diphtheria toxin.

17. The chimeric polypeptide of claim 1, wherein the cell toxin is cross-linked to the chimeric polypeptide.

18. The chimeric polypeptide of claim 1, wherein polypeptide comprises a recombinant fusion protein.

19. The chimeric polypeptide of claim 1, wherein the moiety that specifically binds to a chemokine receptor comprises an antigen binding domain derived from an antibody that specifically binds to the chemokine receptor.

20. The chimeric polypeptide of claim 1, wherein the moiety that specifically binds to a T cell surface polypeptide comprises an antigen binding domain derived from an antibody that specifically binds to the T cell surface polypeptide.

5 21. The chimeric polypeptide of claim 1, wherein the moiety that specifically binds to a cell toxin comprises an antigen binding domain derived from an antibody that specifically binds to the cell toxin.

10 22. A recombinant fusion protein comprising
a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and,
a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

15 23. A bispecific antibody comprising
a first antigen binding domain that specifically binds to a chemokine receptor;
and,
a second antigen binding domain that specifically binds to a T cell surface polypeptide, a cell toxin, or a third antigen binding domain that specifically binds to or is
20 linked to a T cell surface polypeptide or a comprising cell toxin.

24. The bispecific antibody of claim 23, wherein the T cell surface polypeptide comprises a CD3 antigen.

25 25. The bispecific antibody of claim 23, wherein the bispecific antibody is a single chain antibody construct.

30 26. The bispecific antibody of claim 23, wherein the single chain antibody construct comprises a V_L and a V_H domain capable of specifically binding the chemokine receptor and a V_H and a V_L domain capable of specifically binding a T cell surface polypeptide.

27. The bispecific antibody of claim 23, wherein the antigen binding domain that specifically binds to a chemokine receptor comprises a murine anti-human CCR5 antibody MC-1.

5 28. The bispecific antibody of claim 27, comprising V_L and V_H domains arranged in the order V_L(MC-1)-V_H(MC-1)-V_H(CD3)-V_L(CD3).

 29. The bispecific antibody of claim 27, wherein the V_L(MC-1) domain comprises an amino acid sequence as set forth in SEQ ID NO:12.

10 30. The bispecific antibody of claim 27, wherein the V_H(MC-1) domain comprises an amino acid sequence as set forth in SEQ ID NO:16.

 31. The bispecific antibody of claim 27, wherein the V_H(CD3) domain
15 comprises an amino acid sequence as set forth in SEQ ID NO:26.

 32. The bispecific antibody of claim 27, wherein the V_L(CD3) domain comprises an amino acid sequence as set forth in SEQ ID NO: 28.

20 33. The bispecific antibody of claim 27, comprising an amino acid sequence encoded by a nucleic acid as set forth in SEQ ID NO: 17, or comprising an amino acid sequence as set forth in SEQ ID NO: 18.

 34. The bispecific antibody of claim 23, wherein the second antigen
25 binding domain specifically binds to a cell toxin.

 35. The bispecific antibody of claim 23, wherein the antibody is covalently bound to a cell toxin.

30 36. The bispecific antibody of claim 23, wherein the antibody is bound to a second antibody that binds to a CD3 antigen or a cell toxin.

 37. A nucleic acid encoding a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine

receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

5 38. A vector comprising a nucleic acid encoding a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

10 39. A transformed cell comprising a nucleic acid encoding a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

15 40. A pharmaceutical composition comprising a chimeric polypeptide, a nucleic, a vector, or a transformed cell; and, a pharmaceutically acceptable excipient;
 wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second
20 polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically
25 binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

 wherein the vector comprises a nucleic acid encoding a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell
30 toxin,

 wherein the transformed cell comprises a nucleic acid encoding a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that

specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

5 41. A kit comprising a chimeric polypeptide, a nucleic acid, a vector, a transformed cell; or a pharmaceutical composition comprising the chimeric polypeptide, the vector or the cell;

 wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second
10 polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically
15 binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

 wherein the vector comprises a nucleic acid encoding a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell
20 toxin,

 wherein the transformed cell comprises a nucleic acid encoding a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.
25

 42. Use of a chimeric polypeptide to prepare a pharmaceutical composition for the elimination of cells that are latently infected with a primate immunodeficiency virus; wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a
30

second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

43. Use of a chimeric nucleic acid to prepare a pharmaceutical composition for the elimination of cells that are latently infected with a primate immunodeficiency virus, wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

44. Use of a chimeric polypeptide or a chimeric nucleic acid to prepare a pharmaceutical composition for the treatment of an inflammatory renal disease; wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

45. Use of a chimeric polypeptide or a chimeric nucleic acid to prepare a pharmaceutical composition for the treatment of an allergic reaction; wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine

receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

5 46. Use of a chimeric polypeptide or a chimeric nucleic acid to prepare a pharmaceutical composition for the treatment of an inflammatory bowel disease;

 wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

10 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

15 47. Use of a chimeric polypeptide or a chimeric nucleic acid to prepare a pharmaceutical composition for the treatment of multiple sclerosis;

 wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

20 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

25 48. Use of a chimeric polypeptide or a chimeric nucleic acid to prepare a pharmaceutical composition for the treatment of a skin disease;

 wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

5

49. The use of claim 48, wherein the skin disease is skin inflammation, atopic dermatitis or psoriasis.

50. Use of a chimeric polypeptide or a chimeric nucleic acid to prepare a pharmaceutical composition for the treatment of diabetes;

10

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

15

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

20

51. Use of a chimeric polypeptide or a chimeric nucleic acid to prepare a pharmaceutical composition for the treatment of a transplant rejection;

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

25

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

30

52. Use of a chimeric polypeptide or a chimeric nucleic acid to prepare a pharmaceutical composition for the treatment of an inflammatory joint disease;

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

5 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

10 53. Use of a chimeric polypeptide or a chimeric nucleic acid to prepare a pharmaceutical composition for the treatment of a graft versus host disease;

 wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

15 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

20 54. Use of a chimeric polypeptide or a chimeric nucleic acid to prepare a pharmaceutical composition for the treatment of an autoimmune disease;

 wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

25 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

30 binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

55. The use of claim 54, wherein the autoimmune disease is type I diabetes or rheumatoid arthritis.

56. A method for eliminating a cell infected with a primate immunodeficiency virus comprising administering a composition comprising a chimeric polypeptide or a nucleic acid, in amounts sufficient to kill the cell.

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin.

57. The method of claim 56, wherein the primate immunodeficiency virus is a human immunodeficiency virus.

58. The method of claim 57, wherein the human immunodeficiency virus is HIV-1.

59. The method of claim 56, wherein the cell is latently infected with a primate immunodeficiency virus

60. A method for the treatment of a primate immunodeficiency virus comprising the following steps:

(a) providing a pharmaceutical composition comprising a chimeric polypeptide or a nucleic acid,

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin; and

5 (b) administering the pharmaceutical composition in amounts sufficient to treat the primate immunodeficiency virus.

61. The method of claim 60, wherein the treatment further comprises administration of drugs employed in HAART.

10 62. A method for the treatment of an inflammatory renal disease comprising the following steps:

(a) providing a pharmaceutical composition comprising a chimeric polypeptide or a nucleic acid,

15 wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

20 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin; and

(b) administering the pharmaceutical composition in amounts sufficient to treat the inflammatory renal disease.

25 63. A method for the treatment of an allergic reaction comprising the following steps:

(a) providing a pharmaceutical composition comprising a chimeric polypeptide or a nucleic acid,

30 wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second

polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin; and

(b) administering the pharmaceutical composition in amounts sufficient to treat the allergic reaction.

64. A method for the treatment of an inflammatory bowel disease comprising the following steps:

(a) providing a pharmaceutical composition comprising a chimeric polypeptide or a nucleic acid,

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin; and

(b) administering the pharmaceutical composition in amounts sufficient to treat the inflammatory bowel disease.

65. A method for the treatment of multiple sclerosis comprising the following steps:

(a) providing a pharmaceutical composition comprising a chimeric polypeptide or a nucleic acid,

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin; and

5 (b) administering the pharmaceutical composition in amounts sufficient to treat the multiple sclerosis.

66. A method for the treatment of a skin disease comprising the following steps:

10 (a) providing a pharmaceutical composition comprising a chimeric polypeptide or a nucleic acid,

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

15 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin; and

20 (b) administering the pharmaceutical composition in amounts sufficient to treat the skin disease.

67. The method of claim 66, wherein the skin disease is skin inflammation, atopic dermatitis or psoriasis.

25 68. A method for the treatment of diabetes comprising the following steps:

(a) providing a pharmaceutical composition comprising a chimeric polypeptide or a nucleic acid,

30 wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin; and

- 5 (b) administering the pharmaceutical composition in amounts sufficient to treat the diabetes.

69. A method for the treatment of a transplant rejection comprising the following steps:

- 10 (a) providing a pharmaceutical composition comprising a chimeric polypeptide or a nucleic acid,

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

15 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin; and

- 20 (b) administering the pharmaceutical composition in amounts sufficient to treat the transplant rejection.

70. A method for the treatment of inflammatory joint disease comprising the following steps:

- 25 (a) providing a pharmaceutical composition comprising a chimeric polypeptide or a nucleic acid,

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

30 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine

receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin; and

(b) administering the pharmaceutical composition in amounts sufficient to treat the inflammatory joint disease.

5

71. The method of claim 70, wherein the inflammatory joint disease comprises arthritis.

72. A method for the treatment of a graft versus host disease comprising the following steps:

10 (a) providing a pharmaceutical composition comprising a chimeric polypeptide or a nucleic acid,

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

15 wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin; and

20 (b) administering the pharmaceutical composition in amounts sufficient to treat the transplant rejection.

73. A method for the treatment of an autoimmune disease comprising the following steps:

25 (a) providing a pharmaceutical composition comprising a chimeric polypeptide or a nucleic acid,

wherein the chimeric polypeptide comprises a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin,

30

wherein the nucleic acid encodes a chimeric polypeptide comprising a first polypeptide domain comprising at least one moiety that specifically binds to a chemokine receptor; and, a second polypeptide domain comprising at least one moiety that specifically binds to a T cell surface polypeptide or a cell toxin, or, comprising a cell toxin; and

5 (b) administering the pharmaceutical composition in amounts sufficient to treat the transplant rejection.

74. The method of claim 73, wherein the autoimmune disease is type I diabetes or rheumatoid arthritis.

10 75. A method of making a chimeric composition that can bind to a chemokine receptor and a cell toxin comprising the following steps:

(a) providing a first polypeptide comprising at least one moiety that specifically binds to a chemokine receptor and at least one moiety that specifically binds to a
15 second polypeptide comprising an antigen binding domain, wherein the antigen comprises a compound comprising a cell toxin;

(b) contacting the first and second polypeptide with the compound *in vivo* or *in vitro* under conditions wherein the first polypeptide specifically binds to the second polypeptide, and the second polypeptide specifically binds to the compound, thereby making
20 the chimeric composition.

76. A method of making a chimeric composition that can bind to a chemokine receptor and a T cell surface antigen comprising the following steps:

(a) providing a first polypeptide comprising at least one moiety that specifically binds to a chemokine receptor and at least one moiety that specifically binds to a
25 second polypeptide comprising an antigen binding domain, wherein the antigen comprises a compound comprising a T cell surface antigen binding domain;

(b) contacting the first polypeptide with the second polypeptide *in vivo* or *in vitro* under conditions wherein the first polypeptide specifically binds to the second polypeptide, and the second polypeptide specifically binds to the compound, thereby making
30 a chimeric composition.

77. The method of claim 76, wherein the T cell surface antigen comprises a CD3 antigen.

78. The method of claim 76, wherein further comprising a cell toxin
5 covalently bound to the chimeric composition.

79. The method of claim 76, wherein the cell toxin is a truncated *Pseudomonas* exotoxin A (PE38).